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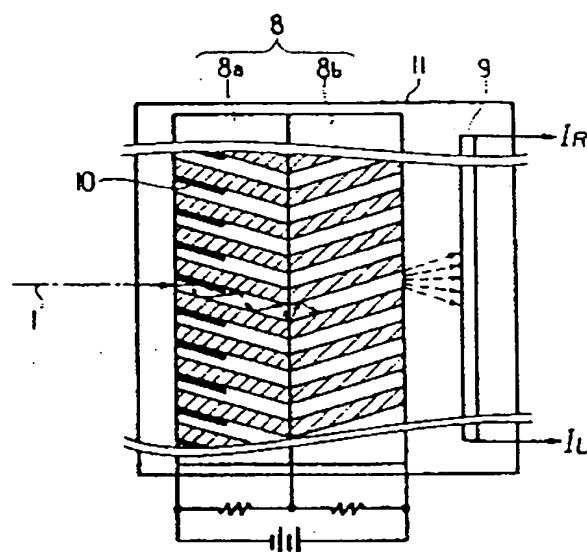
APPLICATION DATE : 28-01-86
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APPLICANT : HAMAMATSU PHOTONICS KK;

INVENTOR : YAMASHITA TAKASHI;

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TITLE : NEUTRON DETECTOR



ABSTRACT : PURPOSE: To improve the resolution performance of the incidence position of a neutron by converting the neutron into a charged particle, and multiplying and detecting it in the channel of a microchannel plate.

CONSTITUTION: Microchannel plates 8a and 8b which slant to an incidence directional line are inserted into a vacuum container 11 one over the other. Then, a material which converts the neutron into the charged particle is stuck by vapor deposition on the plate 8 on a neutron flux incidence side, and then the neutron is incident on the material 10 and causes nuclear reaction to generate the charged particle. This charged particle is converted into an electron in the channels of the plates 8a and 8b and the electron is multiplied to fall on a resistive anode 9 as a shower. The output of the anode 9 is processed and the center of gravity of a current distribution is calculated to compute the incidence position of the neutron 1. A signal extraction process by the neutron is simplified to remove statistical fluctuations due to a divergence of light and a multistage process, thereby improving the resolution performance of the incidence position of the neutral.

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